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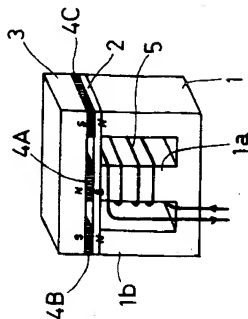
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TITLE : INDUCTANCE ELEMENT



ABSTRACT : PURPOSE: To obtain a constitution proper to the smoothing, etc. of pulsating voltage by dividing a magnetic core oppositely contacting with a central magnetic leg and side magnetic legs of the magnetic core with these magnetic legs through a permanent magnet in the element used for a switching regulator, etc.

CONSTITUTION: The inductance element is formed by an E type soft magnetic substance 1 and I type soft magnetic substances 2, 3. The permanent magnet pieces 4A-C for magnetic bias are disposed to a gap between the magnetic substances 2, 3, and winding 5 is wound on the central magnetic leg 1a. The magnetic substance 2 directly contacts oppositely with the magnetic leg 1a and the side magnetic legs 1b, and preferably has permeability sufficiently larger than the magnetic substances 1, 3, and the magnetic substances 2, 3 are unified structurally through the magnet pieces 4A-C. The polarity of the magnet pieces 4A-C is determined in the direction that denies magnetic flux by the DC components of smoothing currents. The magnetic flux of the winding 5 passes through the magnetic substance 2 when currents are small, and the magnetic substance 2 functions as the magnetic core having the large equivalent gap formed together with the magnetic substance 3 when currents are large. Accordingly, large inductance is obtained in a region where the smoothing currents are small and small inductance in a region where the smoothing currents are large.

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